

Notice of Allowability

Application No.

10/689,410

Examiner

Vikram Bali

Applicant(s)

MIRANDA, JOSE J. MEJIAS

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/18/2007.
2. ☒ The allowed claim(s) is/are 1-41.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

In response to the amendment filled on 6/18/2007, all the amendments to the claims have been entered and the action follows:

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dave Risley on 8/31/2007.

The application has been amended as follows:

In claims:

Amend the following claims as follows:

26. (Currently amended) A computer-readable ~~memory that stores an inspection system~~ medium embedded with a computer program, comprising:

logic configured to identify a tip of a pin that has been press fit into a circuit board;

logic configured to measure characteristics of a flat end surface and a chamfered surface of an identified pin tip;

logic configured to compare measured characteristics with at least one of stored reference values and each other; and

logic configured to make a final decision as to whether the pin is properly installed based upon results of the comparing performed by the logic configured to compare.

27. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to identify a tip of a pin comprises logic configured to perform correlation pattern matching to identify a match in the image with a pin tip model.

28. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to measure characteristics comprises logic configured to define an image analysis line that crosses the pin tip and to measure pixel intensity along the length of the defined line.

29. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to measure characteristics comprises logic configured to measure dimensions of the flat end surface and the chamfered surface.

30. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to measure characteristics comprises logic configured to measure peak pixel intensities of the flat end surface and the chamfered surface.

31. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to measure characteristics comprises logic configured to measure positions at which a peak pixel intensities occur for the flat end surface and the chamfered surface.

32. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to compare measured characteristics comprises logic configured to compare dimensions of the flat end surface and the chamfered surface with reference values.

33. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to compare measured characteristics comprises logic configured to compare peak pixel intensities of the flat end surface and the chamfered surface with reference values.

34. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to compare the measured characteristics comprises logic configured to compare a position of a peak pixel intensity of the flat end surface with a position of a peak pixel intensity of the chamfered surface.

35. (Currently amended) The computer-readable ~~memory~~ medium of claim 26, wherein the logic configured to make a final decision comprises logic configured to

weigh comparison results so that the results that are most highly indicative of whether the pin is or is not properly installed is given greater weight than other results.

Allowable Subject Matter

1. Claims 1-41 are allowed.
2. The following is an examiner's statement of reasons for allowance: Per the applicant's amendments and the persuasive arguments filed on 6/18/2007, all the rejections to the claims have been withdrawn and the claims are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

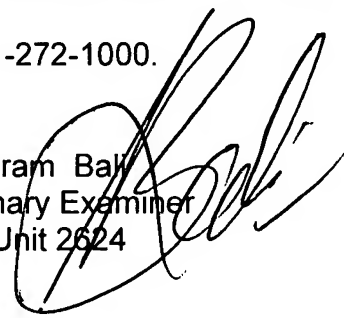
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 571.272.7415. The examiner can normally be reached on 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571.272.6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vikkram Bal
Primary Examiner
Art Unit 2624



vb
August 30, 2007